

Preliminary Amendment
Divisional of Application No. 09/145,143

--35. A method for treating human impotence in a individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising a compound that donates, transfers or releases nitrogen monoxide and a pharmaceutically acceptable carrier,

wherein the compound that donates, transfers or releases nitrogen monoxide is:

- (i) a compound comprising at least one ON-N- or ON-C- group;
- (ii) a nitrite comprising at least one -O-NO group;
- (iii) a compound comprising at least one O₂N-O-, O₂N-N-, O₂N-S- or O₂N-C- group;
- (iv) a compound of the formula (R)_u-A-M-(NO)_v, wherein R is a polypeptide, an amino acid, a sugar, an oligonucleotide, a straight or branched, substituted or unsubstituted, aromatic or aliphatic hydrocarbon or a heterocyclic group; A is sulfur, oxygen or nitrogen; u and v are each independently integers of 1, 2 or 3; and M is a metal; or
- (v) a N-oxo-N-nitrosamine of the formula R₁R₂-N(O-M⁺)-NO, wherein R₁ and R₂ are each independently a polypeptide, an amino acid, a sugar, an oligonucleotide, a straight or branched, substituted or unsubstituted, aromatic or aliphatic hydrocarbon or a heterocyclic group; and M⁺ is a metal cation.

36. The method of claim 35, wherein the nitrite comprising at least one -O-NO group is an ON-O-protein, an ON-O-polypeptide, an ON-O-amino acid, an ON-O-carbohydrate, a straight or branched, saturated or unsaturated ON-O-alkyl compound, a straight or branched, saturated or unsaturated ON-O-aryl compound or a straight or branched, saturated or unsaturated ON-O-heterocyclic compound.

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37. The method of claim 35, wherein the compound comprising at least one ON-N- or ON-C- group is an ON-N-polypeptide, an ON-C-polypeptide, an ON-N-amino acid, an ON-C-amino acid, an ON-N-sugar, an ON-C-sugar, an ON-N-oligonucleotide, an ON-C-oligonucleotide, a straight or branched, saturated or unsaturated, substituted or unsubstituted ON-N-hydrocarbon, a straight or branched, saturated or unsaturated, substituted or unsubstituted ON-C-hydrocarbon, an ON-N-heterocyclic compound or an ON-C-heterocyclic compound.

38. The method of claim 35, wherein the compound comprising at least one O₂N-O-, O₂N-N-, O₂N-S- or O₂N-C- group is an O₂N-O-polypeptide, an O₂N-N-polypeptide, an O₂N-S-polypeptide, an O₂N-C-polypeptide, an O₂N-O-amino acid, an O₂N-N-amino acid, an O₂N-S-amino acid, an O₂N-C-amino acid, an O₂N-O-sugar, an O₂N-N-sugar, an O₂N-S-sugar, an O₂N-C-sugar, an O₂N-O-oligonucleotide, an O₂N-N-oligonucleotide, an O₂N-S-oligonucleotide, an O₂N-C-oligonucleotide, a straight or branched, substituted or unsubstituted, aromatic or aliphatic O₂N-O-hydrocarbon, a straight or branched, substituted or unsubstituted, aromatic or aliphatic O₂N-N-hydrocarbon, a straight or branched, substituted or unsubstituted, aromatic or aliphatic O₂N-S-hydrocarbon, a straight or branched, substituted or unsubstituted, aromatic or aliphatic O₂N-C-hydrocarbon, an O₂N-O-heterocyclic compound, an O₂N-N-heterocyclic compound, an O₂N-S-heterocyclic compound, or an O₂N-C-heterocyclic compound.

39. The method of claim 38, wherein the compound comprising at least one O₂N-O-, O₂N-N-, O₂N-S- or O₂N-C- group is an O₂N-S-polypeptide, an O₂N-S-amino acid, an O₂N-S-sugar, an O₂N-S-oligonucleotide, a straight or branched, substituted or

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unsubstituted, aromatic or aliphatic O₂N-S-hydrocarbon, or an O₂N-S-heterocyclic compound.

40. The method of claim 35, wherein the human impotence is male impotence.

41. The method of claim 35, wherein the human impotence is female impotence.

42. The method of claim 35, wherein the compound that donates, transfers or releases nitrogen monoxide is administered topically.

43. A method for treating human impotence in an individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising a compound that induces the production of endogenous endothelium-derived relaxing factor, stimulates endogenous synthesis of nitrogen monoxide, or is a substrate for nitric oxide synthase and a pharmaceutically acceptable carrier.

44. The method of claim 43, wherein the compound that induces the production of endogenous endothelium-derived relaxing factor, stimulates endogenous synthesis of nitrogen monoxide, or is a substrate for nitric oxide synthase is L-arginine.

45. The method of claim 43, wherein the human impotence is male impotence.

46. The method of claim 43, wherein the human impotence is female impotence.

47. The method of claim 43, wherein the compound that induces the

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production of endogenous endothelium-derived relaxing factor, stimulates endogenous synthesis of nitrogen monoxide, or is a substrate for nitric oxide synthase is administered topically.

48. A method for treating human impotence in an individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising a 2-hydroxy-2-nitrosohydrazine compound and a pharmaceutically acceptable carrier.

49. The method of claim 48, wherein the 2-hydroxy-2-nitrosohydrazine

50. The method of claim 48, wherein the human impotence is male impotence.

51. The method of claim 48, wherein the human impotence is female impotence.

52. The method of claim 48, wherein the composition is administered topically.

53. A method for treating human impotence in an individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising at least one of an (E)-alkyl-2-((E)-hydroxyimino)-5-nitro-3-hexene amine and an (E)-alkyl-2-((E)-hydroxyimino)-5-nitro-3-hexene amide, and a pharmaceutically acceptable carrier.

54. The method of claim 53, wherein the human impotence is male impotence.

55. The method of claim 53, wherein the human impotence is female impotence.

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56. The method of claim 53, wherein the composition is administered topically.
57. A method for treating human impotence in an individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising a sydnonimine compound and a pharmaceutically acceptable carrier.
58. The method of claim 57, wherein the human impotence is male impotence.
59. The method of claim 57, wherein the human impotence is female impotence.
60. The method of claim 57, wherein the composition is administered topically.
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61. A method for treating female impotence in a female individual in need thereof comprising administering to the female individual a therapeutically effective amount of a composition comprising an S-nitrosothiol compound and a pharmaceutically acceptable carrier.
62. The method of claim 61, wherein the composition is administered topically.
63. The method of claim 61, wherein the S-nitrosothiol compound is S-nitroso-N-acetylcysteine, S-nitroso-captopril, S-nitroso-homocysteine, S-nitroso-cysteine or S-nitroso-glutathione.
64. The method of claim 63, wherein the S-nitrosothiol compound is S-nitroso-glutathione.

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65. The method of claim 61, wherein the S-nitrosothiol compound is
- (i) $\text{CH}_3(\text{C}(\text{R}_e)(\text{R}_f))_x\text{SNO}$;
 - (ii) $\text{HS}(\text{C}(\text{R}_e)(\text{R}_f))_x\text{SNO}$;
 - (iii) $\text{ONS}(\text{C}(\text{R}_e)(\text{R}_f))_x\text{B}$; or
 - (iv) $\text{H}_2\text{N}-\text{CH}(\text{CO}_2\text{H})-(\text{CH}_2)_x-\text{C}(\text{O})\text{NH}-\text{CH}(\text{CH}_2\text{SNO})-\text{C}(\text{O})\text{NH}-\text{CH}_2-\text{CO}_2\text{H}$;

wherein x is 2 to 20; R_e and R_f are each independently hydrogen, lower alkyl, cycloalkyl, aryl, heteroaryl, arylalkyl, amino, alkylamino, amido, alkylamido, dialkylamino, or carboxy; or R_e and R_f taken together are carbonyl, cycloalkyl or bridged cycloalkyl; and B is fluoro, $\text{C}_1\text{-}\text{C}_6$ alkoxy, cyano, carboxamido, cycloalkyl, arylalkoxy, alkylsulfinyl, arylthio, alkylamino, dialkylamino, hydroxy, carbamoyl, N-alkylcarbamoyl, N,N-dialkylcarbamoyl, amino, hydroxyl, carboxyl, hydrogen, nitro or aryl.

66. A method for treating human impotence in an individual in need thereof comprising administering to the individual a therapeutically effective amount of a composition comprising a NONOate and a pharmaceutically acceptable carrier.

67. The method of claim 66, wherein the human impotence is male impotence.

68. The method of claim 67, wherein the human impotence is female impotence.

69. The method of claim 66, wherein the composition is administered topically.--